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# **Industry Leaders Brain-storm** for Enhancing Oil Recovery

at SPE New Delhi October Meeting



Section Chair presenting a memento to Dr. Ganesh C Thakur

moment of history was recorded in the memoirs of SPE New Delhi Section (SPENDSEC) on 05 ▲ Oct 2011, when three global leaders of Upstream Oil Industry leaders addressed the house and had interaction with the SPENDSEC members, comprising elite representations from various organizations like ONGC. OVL, OIL, DGH, GEOENPRO, GEOPETROL, Jubilant Energy, Schlumberger, GAIL.

Mr. Ganesh C Thakur, President Elect 2012- SPE, who is the first ever Indian to Get this prestigious Honor in the history of SPE, Mr. Sudhir Vasudeva, Chair India Council of SPE and Mr. Ajit Hazarika, International Distinguished Member-SPE shared the dais.

Mr. B N Talukdar, Chairperson SPENDSEC welcomed the guests and expressed his happiness on this moment of pride for the SPENDSEC to host these distinguished leaders.

..continued page 6

#### IN THIS ISSUE Industry Leaders Brain-storm for Enhancing Oil Recovery 1 Chairman's Corner Corporate Social Responsibility SPENDSEC Welcomes 2012 SPE President Glimpses of SPENDSEC Meetings **Industry Leaders Corner** SPE Distinguished Lecturer Program.... 13 Standalone to Collaboration Linking Risk and Uncertainties...... 14 SPENDSEC Executive Committee 2011-12

## Chairman's Corner

Dear Member,

At the outset, I wish a very happy and prosperous festival season to all of you. This being the first issue of the newsletter this year, I would like to share some of my thoughts about the SPE New Delhi Section.

We have been regularly organizing technical meetings and events which are always very well attended by the young, the less young, and the old(er) generations of our industry. Captains of our industry actively contributed to the sessions, as speakers, session hosts and discussion panel members. The variety of topics provided by operating companies, service companies and academia was always well received. We have a beautiful diversity within our Section, in particular in membership age. Thanks to SPE's pro-active initiatives, we are rest assured that our industry is very much alive & kicking and still has a very bright future ahead.

Professional societies provide a forum for like-minded people to exchange ideas, views and information. It gives ample opportunities to keep ourselves abreast about emerging technologies and create networks with other operating and service companies with whom we can share experiences, seek advice, share common goals, concerns, and perspectives. Professional societies contain a veritable wealth of information available through conferences, meetings, online, publications, and presentations. Besides SPE, there are a number of very good professional societies viz Society of Petroleum Geophysicists (SPG), Association of Petroleum Geologists (APG), European Association of Geoscientists & Engineers (EAGE), Society of Exploration Geophysicists (SEG) USA, Association of Exploration Geophysicists (AEG) India, Society of Petro-physicists and Well Log Analysts (SPWLA), Association of Exploration Geochemists (AEG), American Association of Petroleum Geologists (AAPG) et al. It is time for us to take a lead in creating a platform for interfacing of these various societies with SPE. I believe in this age of cut throat competition, creating such an interface between likeminded professional societies can enhance our knowledge, skills and capabilities by the free flow and dissemination of state of the art scientific & technological knowledge and information.

It is really very heartening that our membership has grown quite a bit during the recent months. But, there is one issue that we must do something to improve. The membership of our Section is balanced in age, however, with respect to gender it is not. Female members represent a very less percentage of our total community. I am convinced that women will gain more ground and strengthen our local Section in the near future.

Apart from organizing the regular lectures, we are considering continuous education and social events, young professionals' programme and getting SPE International Distinguished Lectures. Finally I would like to compliment the young generation for their increased involvement in SPE.

Having said all the above, I would like to thank everyone for their contribution to SPE in 2011, through membership, through participation at events and through active involvement in organizing committees and on our board.

The SPE New Delhi is in great shape and I look forward to this continuing in the coming months. See you all in the monthly meetings, special programmes and events.

B.N. Talukdar Chairman SPE New Delhi Section

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# Corporate Social Responsibility

#### A Lecture by Bhaskar Chatterjee

s part of the "Special Lecture Series" by experts & eminent personalities of the industry on important issues relevant to the Indian Oil & Gas Sector, the Society of Petroleum Engineers (SPE), New Delhi Section (SPENDSEC) organized the first Lecture of the series on the theme "Corporate Social Responsibility" on the 15th of July 2011 at Hotel Royal Plaza, New Delhi.

Befitting the theme, the lecture was delivered by the distinguished personality, Mr Bhaskar Chatterjee, Secretary, Department of Public Enterprises (DPE), and Government of India. The program included the theme lecture on CSR by Shri Bhaskar Chatterjee, Secretary, DPE followed by a very invigorating interactive session.

Mr S.S.Sodhi, Secretary, SPENDSEC welcomed the participants charting the main focus of the evening's program as developing the knowledge base of the participants in the areas of Sustainability and CSR so as to enable them to integrate it with the business strategy of their organizations.

Shri B.N. Talukdar, Section Chairman, SPENDSEC, welcoming Mr Bhaskar Chatterjee, described him as a personality in the country second to none to deliver the speech on CSR. He thanked Mr.



Mr Bhaskar Chatterjee delivering lecture on corporate social responsibility

Chatterjee for accepting the invitation to deliver the lecture despite his extremely busy schedule. Besides the new initiative of "Special Lectures", Mr. Talukdar also informed the participants that the "Distinguished Lectures Presenters Series" on technical subjects, as part of the SPE World Wide Lecture Program, is being planned during the year with lectures by eminent

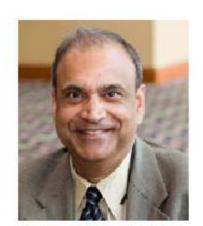


Mr. A K Hazarika presenting Memento to Mr. Chatterjee

# SPENDSEC Welcomes 2012 SPE President

Thakur is a world-recognized leader in reservoir engineering & simulation, secondary recovery, reservoir and well productivity improvement, heavy oil, horizontal well technology and EOR. He is also known for the emergence of reservoir management (RM)—in particular waterflooding—as a key interdisciplinary practice.

Thakur has an impressive list of publications and teaching engagements conducted around the world. His skills and expertise are called upon widely in the design and operation of RM programs, mentoring technical professionals, and serving as an ambassador of technical capabilities to National Oil Companies and Government Ministries. He is an SPE Distinguished Member and has served as Technical Director – Reservoir for the Board of Directors, and an SPE Distinguished Lecturer.



Ganesh C. Thakur
Vice President,
Global Advisor RM and Fellow
Chewron Energy Technology Company

Thakur has authored 50 technical articles, three books, edited two SPE reprint series, and presented over 150 lectures/short courses around the world.

A past chairperson of the SPE Reprint Series, Thakur has served on the SPE Editorial Review and Forum Series committees and as short-course instructor on Integrated Reservoir Management and Waterflood Management. He received SPE's 2005 Reservoir Description and Dynamics award, 2006 Penn State University's outstanding alumni achievement award, and 1994 Orange County, California's outstanding engineer of the year award.

Thakur earned a BS degree in petroleum engineering from Indian School of Mines and MS and PhD degrees in petroleum and natural gas engineering, plus an MA degree in mathematics, all from Pennsylvania State University. In addition, he earned an executive MBA degree from Houston Baptist University. He has served as an adjunct professor at USC, University of Texas (Permian Basin), University of Houston, and Houston Baptist.





One for the Album

Global Experts on subjects related to Oil & Gas Industry.

Mr Bhaskar Chatterjee kept the audience spellbound with his immaculate knowledge based speech. He opined "Corporate social responsibility is the commitment of businesses to contribute to sustainable economic development by working with employees, their families, the local community and society at large to improve their lives in ways that are good for business and for development". Mr. Chatterjee drove home the point about the "difference between charity and CSR." Both Public and Private Sector organizations owe it to the society." He also stressed that CSR as an activity should be well thought out as a business strategy that has to be sustainable. It should be implemented after adequate need assessment and benchmarking studies. The efficacy and efficiency of CSR of the an organization can be measured only after external validation by an independent agency. He once again highlighted that "organizations should contribute 0.5 to 2% of their



Mr B N Talukdar-Section Chair addressing the gathering, seated on dais is Mr. S S Sodhi, Mr. Bhaskar Chatterjee, Mr. Jayant Malhotra



Mr A K Hazarika discussing the Issue, Members of SPE Listening the Lecture

turnover towards CSR". There can be differences of opinion with regard to modus operandi in implementing or measuring the CSR goals but no one can deny the urgency and need for the CSR in the corporate sector. Undoubtedly, a coherent, well-concerted CSR strategy, based on integrity, sound values, and a long-term approach, is bound to unfold clear business benefits to the corporate sector and a positive contribution to the well-being of the society as well. He exhorted the Public Sector Enterprises to lead from the front and set benchmarks in successful CSR activities which will inspire the Private Sector to emulate the same.

The vote of thanks was delivered by Mr P. K. Sharma, Joint Secretary, SPENDSEC expressing the section's sincere gratitude to all the dignitaries and SPE members present for accepting the invitation to attend the Program. The program was hugely appreciated by all the participants.

Mr. S S Sodhi, Secretary SPENDSEC gave a profound presentation charting the path treaded by SPENDSEC over the years since its inception on 13th of March 2005. He highlighted various initiatives the SPENDSEC has planned for the coming year and the most important being the continuous learning of the **Indian Industry Professionals.** 

It was a proud moment for SPENDSEC to felicitate the Past Section Chair-SPENDSEC, Mr. Ajit Hazarika who has been conferred with the "International Distinguished Membership Award 2011" . This is acknowledgement that the International Organizations recognizing the Indian Industry Professionals It was during his tenure the SPENDSEC received the prestigious President Award for Section Excellence.

Mr. Hazarika in his speech expressed the need for the Industry to embrace Innovation & Technology for Enhancing Production and strive for new discoveries as the demand and prices of Oil are on an upward trend. He highlighted that the Innovation will derive the business in next decade. He pointed out that the industry needs to develop & attract the manpower right at the college level. Mr. Sudhir Vasudeva, Chairperson-India Council of SPE



Mr. B N Talukdar Chairperson SPENDSEC welcoming Mr. Ajit Hazarika



Mr. Ajit Hazarika-Past Section Chair addressing the section members and guests

was felicitated on taking over as CMD of ONGC Group of Companies. Mr. Sudhir Vasudeva appealed to the President Elect SPE -2012 to make the Indian Sub Continent as Independent region of SPE keeping the Present & Emerging Industry scenario of Indian Sub Continent in view. He informed that two new chapters namely Calcutta & Duliajan and Student Chapter at Dibrugarh University are being established, which will



Mr. BN Talukdar Chairperson SPENDSEC welcoming Dr. Ganesh C Thakur



One for the album



Mr. Ganesh C Thakur President Elect 2012-SPE delivering his talk.



Section Chair Felicitating Mr. Sudhir Vasudeva - India Council Chair

promote learning amongst the Industry Professionals.

He stressed that the Primary Parameter of Performance of Upstream oil company is its Production and accumulation of reserves, which ultimately lead to increase in market capitalization, as such the focus should be on the primary objective of Enhancing Production. He stressed on the need for observing Safety Measures and consciousness towards Environment while achieving



Industry Goals.

Mr. Vasudeva while interacting with the SPE Members expressed that the Economic rate of return should govern the viability of Projects. He advised that the achievement of final common objective shall govern the working of all.

Mr. Ganesh C Thakur President Elect 2012-SPE, spoke at length about his Vision and Agenda as the President SPE, the position which he is to take over at Annual Technical Conference & Exhibition (ATCE) of SPE at Denver, Colorado, USA. Mr. Thakur is Global Advisor RM and Fellow in Chevron Energy based in USA since last 35 years. He is a world recognized leader in reservoir engineering & simulation, secondary recovery, reservoir & well productivity improvement, horizontal well technology and EOR. He has to his credit many technical publications and is renowned trainer for the Upstream Industry Professionals all over the world.

Mr. Thakur delivered the talk on Key to Maximize Asset Value and Recovery Efficiency (Exceeding 70%). He highlighted the various challenges the industry faces and likely to face in the near future. He informed that the Enhanced Oil Recovery (EOR) is going to play very crucial role in the Upstream Industry in the next 25 years as he visualizes that the EOR is going to give as much output as we get from new discoveries. He suggested that the EOR becomes viable at \$ 75 Per Barrel or more and an increase of 10% recovery would add up about 600 billion of barrels in production. He stressed on the need of use of science and technology for the business. His examples of improving recovery rate to 80% in field like Jengiz-Khazkastan, Agbani-Nigeria and kern oil field made the audience spell bound. He advised that the EOR should be planed right on day one at the time of discovery of field and problems needs to be converted in to opportunities.

Mr. P K Sharma Joint Secretary offered the vote of thanks.



Engrossed Audience

SPENDSEC NEWS JAN-MAR, 2012



## Glimpses of SPENDSEC Meetings.







## **Industry Leaders Corner**

Mr Ajit Hazarika is known professional in Upstream Oil Industry in India. He has held many important assignments in the ONGC-National Oil Company of India, and presently serves on the Board of ONGC and many other companies. He has been Section Chair of SPE N Delhi-2006, and during his tenure the Section won the President Award for Excellence. He is active volunteer in the SPE. He has been awarded with Regional Service Award and has been conferred with International Distinguished Membership Award 2011.



Mr S S Sodhi Secretary SPENDSEC had interaction with him on his views on Industry. The excerpts from his interview

SS Sodhi: The world oil demand had peaked in 2010 in last three decades; with huge supply & demand difference how you see the scenario in next two to five years.

Mr A Hazarika: Yes, The World oil consumption has been highest in 2010 so far. One cannot say that it had peaked or it will not increase in the coming years. Actually, if one tracks the trend of oil consumption, it is obvious that it has always been increasing. It is because of the economic recession that there was a negative growth in 2008 and 2009 which has recovered in 2010 and showed a peak. Otherwise if we take the average growth rate over three years period of 2006-08, which is about 1.43%, and if we extrapolate the same rate to the subsequent years, the consumption in 2010 would have been 3.2% more than what we have actually seen.

As a result of the economic recession of 2008-09, the situation has in fact vastly improved providing ample cushion between the demand and supply. Considering the continuing economic downturn in euro-zone and the upcoming big projects in western hemisphere, I believe that there will not be any strain on the supply side in the next five years provided that the unrest in Middle East & North Africa (MENA) region is not escalated further.

SS Sodhi: With the ongoing political unrest in MENA Region (Middle East & N Africa), how do you see the turmoil affecting the oil industry and your investments?

Mr A Hazarika: The largest impact of the unrest in MENA region has been on the oil prices. The oil prices were hovering in between \$70-80 per bbl in 2010 which was quite comfortable both for producers as well as to consumers. Since the socio-political turbulence started brewing around the end of 2010, the oil price was the first commodity to reflect the heat. As the pro-democracy protest, Egypt came up on the road, in January, 2011 the oil prices shot up beyond \$100 per barrel. As the similar sentiment had also spread over the other MENA countries, the oil prices went up further. Since then though there is enough supply comfort in the global market, oil prices have not softened much.

The perpetual speculative force has been ruling over the global oil market affecting the developing economies as well as affecting the investment capacity of the NOCs of the developing countries where upstream companies need to share the additional social burden resulting from the rising oil

prices.

SS Sodhi: With GDP growth rate expected to be 10% in India, How ONGC intends to satisfy the demand for energy.

Mr A Hazarika: Double digit GDP growth rate is dream which all of us in India would have cherished to see. Given the global economic condition underlined by the second bout of economic recession in the OECD countries, this seems to be a distant dream. Recently IMF has scaled down India's growth forecast to 7.8% this fiscal against its earlier estimates of 8.2%. The likely decline in global trade and capital flows would drag down the economics of both developing and the emerging countries including India.

Even at such rate of GDP growth, the energy demand is to increase substantially. Our responsibility as the National Energy Company increases in tandem with the rising demand. With the growing demand of oil and gas and with their rising prices, our energy import bill is increasing, which is a major concern. We need to source and produce more and more oil and gas to meet the country's ever increasing demand.

ONGC being National E&P Company of India is focused on enhancing exploration in India's sedimentary basins as well as making all out efforts in increasing production from the existing matured producing fields by induction of various technologies like IOR/EOR as well as monetizing new marginal fields. We are striving hard to source equity oil from overseas through our 100 % subsidiary company ONGC Videsh Ltd (OVL). We also envisage harnessing energy from sources other than oil & gas like renewables, alternatives and non-conventional.

SS Sodhi: What are the major concerns for Indian Upstream Oil Industry and what are the major challenges in front of ONGC?

Mr A Hazarika: The greatest concern of Indian upstream industry is that the sedimentary basins of India is not only poorly endowed but also poorly explored. Since the launching of NELP in 1999, though the exploration activities have got significant momentum, nevertheless only 22% of Indian sedimentary basin is well explored, 66% is poorly explored or the exploration has just initiated.

Moreover, the unexplored or poorly explored areas are in difficult frontiers challenged with logistic and environmental constraints. These areas need specialized skill, huge risk capital as well as application of new technologies. Major global oil companies have still remained cautious over participating in India's NELP bidding rounds allegedly due to the poor prospect and less attractive fiscal and pricing policy.

For ONGC, the greatest challenges over the past couple of years have been i) maintaining production from its matured fields, ii) adding easily producible reserves and reserves of significant sizes, iii) retaining talents and iv) stiff competition in acquiring equity oil in overseas market.

Future challenges are conversion of deepwater discoveries into production for which we need an experienced partner who can bring technologies as well as share the risk of development.

SS Sodhi: With the increase cost of hiring services, how does oil companies are minimizing costs, especially ONGC?

Mr A Hazarika: The cost of oil field services always increases in tandem with the increase of oil prices. Higher oil price has thus both advantages and disadvantages. When in one hand the E&P companies get a better return from sales, on the other hand they need to spend more for the input services. With the rising scarcity of oil in easily accessible areas, as the companies are moving to logistically and environmentally challenging areas that need special input services which are naturally expensive, the cost of operation mounts. This is a great challenge for the E&P operators.

For ONGC, this challenge is again two-pronged. In one hand, with the rising oil prices, say beyond \$70-80 per bbl, the subsidy sharing burden to help oil marketing companies increases reducing the net retention price for ONGC; and at the same time, the rising cost of input services affects our bottom line.

Cost consciousness at every level of operation is the answer to this challenge. ONGC, over the years, has developed a very prudent financial management that includes cost consciousness and competitive hire-purchase mechanism all along the supply chain. It would be interesting to mention that our cost of production in 2010-11 has been less than that in 2009-10 despite higher oil prices in the last fiscal due to several measures taken by the company.

SS Sodhi: How do you intend to retain the manpower as private oil companies hunt for your manpower?

Mr A Hazarika: It is natural in any industry that the talented manpower will be attracted towards the side wherever there is better remuneration. A decade ago, the upstream sector in India had only two public sector companies. After the liberalization of the sector and launch of NELP in 1999, dozens of private companies including multinationals have entered the upstream sector in India. Some downstream companies have also vertically integrated their activities by diversifying into the upstream sector. As a result, the skilled

manpower with the immense knowledge and expertise in the oil and gas exploration and production business that the two erstwhile public sector companies, namely ONGC and OIL, had developed over the decades had become the easy prey for loosing talented and experienced manpower for the new players specially to private companies.

Being Public sector, as we are not allowed to formulate the compensation or perks and allowances for our employees, we were poorly positioned against the desperate private players. However, in face of such constraints, we had to come out with some innovative ideas. We designed some unique welfare schemes that would address the family needs and fulfill some of the long term aspirations of our employees. That strategy helped to save the day and we could reduce the attrition rate reasonably well.

After the 2nd Pay Commission, coupled with the PRP (Performance Related Pay) system, the situation further improved. However, the difference of pays and perks between private and public companies are still there. We have the challenge of constantly innovating new schemes within the limitations of public sectors to retain and attract talents to our manpower pool.

SS Sodhi: What is your opinion about SPE in general and SPE New Delhi Section in particular

Mr A Hazarika: I always hold SPE at a very high esteem as an organization which is committed to collection, dissemination and exchange of ideas in the realm of global oil and gas industry. It is one of the most credible platforms in the industry that the professionals look for authentic and quality technological information.

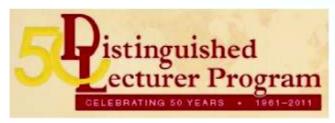
I consider myself privileged to chair SPE New Delhi Section (SPENDSEC) for the year 2006-07 and the Section received SPE President Award for the year 2007 for Section Excellence from SPE President due to various notable activities undertaken by this section during this period. This was really a proud moment for all members of SPE New Delhi Section and India as well.

It is also a proud moment for all Indians that Dr. Ganesh Thakur, an Indian and domain expert in reservoir management is going to take over as 2012 SPE President. I believe under his able guidance and leadership, SPE Sections globally will be able to share valued thoughts, knowledge, experiences and innovative technologies applied in various fields of E & P sector to improve production from its matured fields.

The SPE Delhi Section has been doing a yeomen work in propagating the vision and mission of SPE and are extending immense professional help to the technical fraternity of oil and gas industry operating in and around Delhi. The kinds of program they have been organizing are very innovative and have substance. Recently the lecture on CSR involving the Secretary, DPE shows the concern of the SPE New Delhi fraternity for an inclusive growth agenda which is being pursued by the Indian oil and gas industry, especially public sectors, very passionately. I wish them great success and best wishes for their every efforts in future.

## SPE Distinguished Lecturer Program celebrates 50 years- 1961-2011

By Rahul Bali Member -SPE Distinguished Lecturer Committee



Started in 1961 with three lecturers the Distinguished Lecturer Program is funded primarily by the SPE Foundation through member donations and a contribution from Offshore Europe. This year the program shall complete 50 years!

Each year, SPE selects a group of around 35-45 individuals who are experts in their field and capable speakers to share their expertise with SPE members through visits to local sections.

The individuals are nominated by their peers, and selection by the Distinguished Lecturer Committee is a recognition of their expertise. Nominations are solicited from each region of the world to cover all disciplines. More than 450 presentations are offered each year, and each section can receive up to three lectures per year.

#### Nominee characteristics

Each lecturer chosen by the Distinguished Lecture Committee is:

- an expert in his or her field
- an experienced and articulate public speaker who is comfortable speaking to different audiences in English
- willing to volunteer personal time to instruct and share knowledge with others
- willing to travel for an average of 20 presentations with tours lasting around four days or as long as two weeks
- be an experienced traveler; since tours can be very rigorous due to flight schedules, routing, and transportation between sections.

#### Timeline

- Distinguished Lecturer Committee selects potential lecturers: July
- Candidate receives a letter to present: August
- Verbal presentations are given by the lecturer to the DL Committee at Orientation: September/October
- Letter of invitation sent: October
- Lecture program year: September through May

#### History of the SPE DL Program

The Distinguished Lecturer Program began in 1961 with a group of three well-known, highly-regarded "Distinguished Source: www.spe.org

Lecturers." The purpose of the program was, and continues to be, the dissemination of technical information. Additional goals are to assist SPE sections in obtaining recognized, outstanding speakers for section meetings and to recognize the professional contributions of those selected as Distinguished Lecturers.

Section response to the program was so enthusiastic that the program was expanded to permit each section to obtain up to three Distinguished Lecturers per year. More than 450 lectures are now presented worldwide each year. The sections receive skilled professionals who are experts on a topic that is relevant to that section. Both the topics and the lecturers are selected by the Distinguished Lecturer Committee Members. The Committee bases its selection upon nominations by SPE members, officers, and other committee members. From these nominations, around 35-40 speakers are selected for this annual program.

Over the years, the Distinguished Lecturer Program, funded principally by a grant provided by the SPE Foundation, has grown in recognition and prestige. Not only are the lecturers skilled experts in their field, but they are also willing to give of their personal time to instruct and share with others. This combination of professionalism, expertise, and concern has made the program well respected throughout the world.

## Did you know?

A total of 23 women have served as Distinguished Lecturers. The first women Distinguished Lecturers served in 1998-1999. They were Sara J. McMillen and Cheryl Stark.

Number of repeat women Distinguished Lecturers: 2 Nationalities of women Distinguished Lecturers:

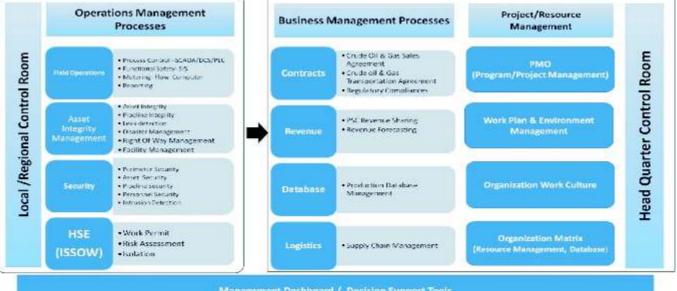
> US: 13 China: 2 Africa: 1 Middle East: 2 India: 1 Asia Pacific: 1 Europe: 1

Women Distinguished Lecturers, who have served or are serving on SPE Board of Directors: 3 Women Distinguished Lecturers, who have also served on the DL Committee: 3

The total number of women that have served or are serving on the DL Committee: 11

## Standalone to Collaboration

By Sudhir Bahuguna ČEO - Energy & Utilities, RAMTECH



**Enterprise Resource Planning** (Man, Machine, Material)

Knowledge Management Portal / Electronic Document Management System

Communication - Email, Video Conferencing, Horizontal Applications

#### IT Managed Services (Cloud)

Illustration of typical Collaboration center architecture

Information Technology is playing key role for making organization transparent & efficient by capturing the various business process for consolidation of data and bringing useful information to users. Providing end to end IT solution was big challenge may be few years back but not now. Today IT solutions are available for end to end business process, now it is only matter of vision of the organization or leader to strive for complete & best solution. Smart organizations are shifting from old IT terminology of "Procure to pay" to "Cash to Cash", "Asset management" to "Asset Integrity management", "ERP" to "Business Intelligent", "Electronics Document Management" to "Knowledge Management" and so on Enterprise IT architecture must support the total business cycles

like "well head to customer location" for Upstream Oil & Gas business. IT Solutions for any organization should be built around operation, Business, Project and Resource management and organization should encourage their employees to get rid of standalone approach and to move towards collaborative approach. Decision should be taken at business collaboration center using decision support tools after due deliberation rather than through E-mail or other mode of communication.

Mr Bahuguna has about three decades of experience in Oil & Gas sector .He is expert in IT strategy & also Oil & gas business process. Earlier worked with ONGC, ONGC Videsh, GNPOC, Sudan and Reliance Industry.

### Linking Risk and Uncertainties to Field Development Planning In Challenging Environments

By Stephen S. Kuo **BP** Exploration

lecture on Linking Risk and Uncertainties to Field Development Planning In Challenging **L**Environments was delivered by Mr Stephen S Kuo Distinguished Lecturer at Sept '11 Technical Meeting of the SPENDSEC.

He explained that the complex geological architecture in deepwater turbidite reservoirs, coupled with multi-billion dollars development schemes, i.e, dry or wet tree wells, subsea pipeline system and floating facilities, makes field development planning a very challenging task. The reservoir engineer is often faced with tough questions: "How many wells are required and what the reserve volume is and its range". To answer these questions requires a complete assessment of risk and uncertainties of the reservoir to be developed. Even with the most rigorous technical approach the uncertainties will still remain.

It is equally important to communicate the risk and uncertainties to key stake holders so that an informed business decision can be made.

He discussed the systematic approach to frame the risk, link the risk to uncertainties, assess the uncertainties and develop an activity plan. The activity plan should be tied to reservoir surveillance program so

that risk is mitigated and the uncertainties are reduced as the project moves into execution and production phases.

The Key take-away was to keep risk and uncertainties analysis simple by looking at a big picture and only focus on the uncertainty parameters that have a material impact on the business. A few



examples of field development plan were also discussed in the lecture.

Stephen S. Kuo, a veteran of BP with 30+ years of global experience, is responsible for field development planning and risk and uncertainty assessment for BP's deepwater fields in Gulf of Mexico. Steve holds BS, MS and PhD in Chemical Engineering from University of Wisconsin, USA.

A seasoned subsurface professional, Steve specializes in oil and gas development from appraisal to production, reservoir management, prospect evaluation, new venture, and gas supply planning for LNG plant. He received SPE Asia Pacific Regional Service Award in 2009.

#### Establishment dates of **India sections**

India	08 April 1986
North India	18 June 1989
Mumbai	22 Sep. 1990
New Delhi	13 March 2005
Chennai	28 Dec 2006
North East India	10 April 2007
Bangalore	11 Oct. 2007
Surat-	02 Oct. 2008
Kakinada	19 Sep 2010
Duliajan	29 Oct 2011
Kolkata	29 Oct 2011



#### SPENDSEC Executive Committee 2011-12

Office Held	Name	Company Affiliation
Section Chair 2011-12	B N Talukdar	Oil India
Past Chairperson	S RoyChaudhury	ONGC Videsh
Membership Chair	Suresh Kumar Batra	Jubilant Energy
Programme Chair	Jayant Malhotra	Schlumberger
Secretary	Sukhwinder Singh Sodhi	ONGC
Treasurer	Deepak Swaroop Bhatnagar	ONGC
Joint Secretary	P.K.Sharmah	Oil India
Director	P K Ghosh	ONGC
Director	Alberto Negri	ENI
Director	S Chandra	Cairn India
Internet Chair	Rahul Bali	ONGC
Career Guidance Chair	Ajay Dashore	ONGC
Sponsorship Chair	Sanjay Chawla	DGH
Publicity Chair	Ramendra Sinha	ONGC
Young Professional Chair & Student Liaison	Dr Ashutosh Pasricha	Schlumberger





FLOW-CHANNEL HYDRAULIC FRACTURING SERVICE

#### **HiWAY** channel fracturing increased oil production 43%, decreased water consumption 58%

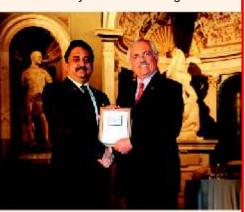
The HiWAY\* flow-channel fracturing technique creates infinite-conductivity channels for hydrocarbons to flow through—in single, multistage, vertical, or horizontal wells. It helped one Eagle Ford operator increase oil production 43% and gas production 61% while saving more than 5 million gallons of water and 1.6 million pounds of proppant per well.

Learn more at www.slb.com/HiWAY

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#### **Just to Share**

Rahul Bali receives Distinguished Service Award and SPE Distinguished Membership from Society of Petroleum Engineers



Rahul Bali our founder secretary was honored with the Distinguished Service Award and SPE Distinguished Membership during the Awards Banquet at SPE's 2010 Annual Technical Conference and Exhibition held 20-22 September in Florence, Italy.